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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,950

07/23/2003

Mark E. McDonald

42P16461

9909

8791

7590

03/10/2006

BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
12400 WILSHIRE BOULEVARD  
SEVENTH FLOOR  
LOS ANGELES, CA 90025-1030

EXAMINER

NGUYEN, TUAN N

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

81

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/625,950	MCDONALD, MARK E.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tuan N. Nguyen	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-12, 15-18, 21, 22 is/are rejected.
- 7) ☐ Claim(s) 6, 7, 13, 14, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

1. In respond to applicant's amendment filed 12/30/2005, amended specification has accepted.
2. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
4. Claims 1-4, 7-12, 15-18, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dijaili et al. (US 6347106) in view of Acree (US 2004/0263983).

With respect to claims 1, 2, 8, 9, 16, 17 Dijaili et al. '106 discloses a semiconductor laser having least one anti-reflective layer having admittance or reflective index between that of a gain

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and an adjacent media (Fig 3A: 100-107). Dijaili et al. '106 further discloses an absentee layer of (Si) (Col 5: 55-67) or SiO<sub>2</sub> (Col 2: 60-65) having an index of refraction greater than gain media and having a thickness corresponding to a number of quarter waves (Col 3: 20-25)(Col 6: 1-5). Dijaili et al. '106 does not disclosed expressly an absentee layer having index of refraction greater than gain media having a *thickness parameter* corresponding to a number of half waves. Acree '983 discloses an anti-reflective (AR) coatings and structure, where the absentee layer having a thickness corresponding to a number of half waves (fig 7)[section: 0042; 0061; 0071-0072]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide Dijaili et al. '106 the anti-reflective coating as taught or suggested by Acree '983, to extend the spectral region [section 0003]. In addition, it has been held that where the general conditions of a claim are disclosed in the prior art, disclosing the optimum or workable ranges involves only routine skill in the art, in this case the thickness of the absentee layer meeting a given parameter to produce the half-wave. In re Aller, 105 USPQ 233. Since claims 8,9, 16 recite the same or identical elements/limitations it is inherent to use patents ('106) to recite the method of mitigate reflection, product by process.

With respect to claims 3, 10, 11, 21 Dijaili et al. '106 discloses the gain media comprises InGaAsP (Col 5: 29-30).

With respect to claims 4, 12, 22 (Col 2: 54-65) (Col 3: 1-5) discloses the dielectric layers comprises Ta<sub>2</sub>O<sub>5</sub>, SiO<sub>2</sub>, and absentee layer comprises Si (Col 2: 65)(Col 5: 55-64).

With respect to claims 7,15, 18 (Col 7: 27-28) adjacent media comprises air or reaction of oxygen. Acree '983 also teaches adjacent media comprises air [section 0011-0016].

***Allowable Subject Matter***

5. Claims 5-6, 13-14, 19-20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The references of the record fail to teach or suggest:

Claims 5,6, 13, 14, 19, 20:

The absentee layer has a thickness corresponding to 1-7 or 3-4 half-waves.

***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen

